Course Title:
Machinery Principles and Management

Catalog Description:
Machinery Principles and Management will cover the utilization of farm equipment from the purchasing of equipment and managing the costs to the operation and maintenance of agricultural equipment.

Prerequisites or Necessary Entry Skills/Knowledge:
None

FULFILLS MN TRANSFER CURRICULUM AREA(S)
Goal 1: Communication: by meeting the following competencies:

Goal 2: Critical Thinking: by meeting the following competencies:

Goal 3: Natural Sciences: by meeting the following competencies:

Goal 4: Mathematics/Logical Reasoning: by meeting the following competencies:

Goal 5: History and the Social and Behavioral Sciences: by meeting the following competencies:

Goal 6: The Humanities and Fine Arts: by meeting the following competencies:

Goal 7: Human Diversity: by meeting the following competencies:

Goal 8: Global Perspective: by meeting the following competencies:

Goal 9: Ethical and Civic Responsibility: by meeting the following competencies:

Goal 10: People and the Environment: by meeting the following competencies:
### Topics to be Covered

- Machine Performance
- Power Performance
- Machine Costs
- Grain Harvesters
- Forage Harvesters
- Tillage Operations
- Seedbed Preparations
- Chemical Applications
- Grain Dryers
- Material Handling

### Student Learning Outcomes

- Calculate machine capacities
- Calculate horse power performance of tractors
- Calculate fuel efficiency or tractors.
- Identify the parts and explain the functions of grain harvesters.
- Complete the settings on a combine.
- Calculate field loss
- Explain the functions of forage harvesters.
- Compare tillage operations and advantages/disadvantages
- Describe the different types of chemical/fertilizer applicators.
- Calculate chemical applications
- Calculate drying efficiency
- Calculate auger efficiency

### Is this course part of a transfer pathway?

- Yes ☐
- No ☒